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ONLINE DATABASES

BY CAROL TENOPIR

Decision Making by Reference Librarians

TECHNOLOGY provides choices for reference materials and reference services that were not possible ten or even five years ago. Having choices means an increased need for decision making by reference librarians, and the decisions that are made will impact reference services, staff, and patrons. I was recently asked by the organizers of the New Mexico State Library Reference Training Institute to come up with some guidelines (besides costs) for choosing among alternatives for reference materials, and to outline some of the effects of adding technological reference sources to a library.

The way it stands now

Although online searching and CD-ROM are used widely in academic research and special libraries, a 1987 survey by OCLC showed that only 17 percent of OCLC member public libraries and 24 percent of college libraries were using CD-ROM ("1987 OCLC Compact Disk Study," *Laser-disk Professional*, May 1988, p. 44-49). Online use as well is still not widespread in public and school libraries. The OCLC survey found that many libraries were planning to make more use of technology in their reference services in the near future. All libraries, whether they are currently using online or CD-ROM or just planning for the future, will need to keep up with new products and developments. The need to choose the most appropriate technology and to make decisions is a continuous one.

The current biggest contenders by far for your reference dollar are online databases, locally held databases (especially CD-ROM), and printed materials. Online databases may be provided by intermediaries using the full online systems such as

Dialog, BRS, Medlars, etc., or with end user search services using end user systems such as BRS/After Dark, front-end software such as Wilsearch, or gateways such as EasyNet. (See my column, "Four Options for End User Searching," *LJ*, July 1986, p. 56-57.) CD-ROM and print are used by both patrons and staff.

Decision making happens at two levels: 1) the collection development level for overall policy and purchasing decisions; and 2) the reference question level for choosing the most appropriate technology for a particular user or question. Online, CD-ROM, and print have their own unique advantages. Each is better for certain circumstances, questions, or users.

When to choose online databases

Online databases should be used to expand the coverage and scope of the reference collection. They allow a library to access reference materials they would not otherwise have. Depending on the size and clientele, most libraries have print subscriptions to certain standard tools such as *Readers' Guide*, *Psychological Abstracts*, *Books in Print*, etc. These libraries probably do not subscribe to print versions of all the highly specialized tools. There are over 5000 publicly available databases today, nearly 1000 on the online systems most used by libraries. It makes sense to access these online in the rare times they are needed.

In addition to the somewhat esoteric sources, online provides access to sources you may not be able to afford in print such as *Chemical Abstracts*, *Beilstein*, or *Social Science Citation Index*. Online is often the most cost-effective medium for seldom-used materials because most online databases are pay-as-you-use. You don't have to encumber the full price of a reference source that may be used only once a week or once a month or once a year. When a source is needed it can be accessed online, often for as little as \$5-\$15 for ready reference.

Online databases are a logical choice when currency is important. In most cases the online version will be the most current published re-

source available. Some wire services on DIALOG are updated every 15 minutes. Dow Jones News Retrieval updates stock prices throughout the day. Other bibliographic, directory, or full-text databases are updated daily, weekly, or monthly. Full texts of wire services, magazines, and newspapers are an especially good choice for school or public libraries that may have limited collections but do a lot of current event searching. Through systems like CompuServe or The Source, wire services can be accessed relatively inexpensively.

A final reason to choose online databases is to answer reference questions that can't be readily answered by any other means. Complex questions that require a combination of several factors are quickly and easily answered online by an intermediary but would require a tedious and time-consuming search in printed works. "I'd like to know what's been written by Canadian researchers in the last ten years about effects of acid rain on trout populations in Canadian streams"; "How many software companies in San Francisco employ more than 50 people?"; and "Can you help me find an article I read last year or the year before in some magazine like *Time* or *Newsweek* that had a title something like 'How To Become a Millionaire Before You're Thirty?'" are all much easier to do online.

When to choose CD-ROM

Online databases are not the answer for all reference work. Choosing from among the approximately 200 CD-ROM databases available today is a good option for some libraries and for some uses.

Because CD-ROM allows unlimited use of a work once it is purchased or leased, it makes sense to use CD-ROM for those databases that will get heavy use in your library. In a library with a lot of business searching, for example, the CD-ROM version of ABI/INFORM from UMI will be a popular addition to the library. Information Access Company's InfoTrac products are heavily used in general reference situations. Medline from one of many CD-ROM



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vendors is a smart addition to a medical library.

Like online, many CD-ROM products offer the advantage of increased subject access to information by allowing complex combinations of terms. The capabilities and ease of use vary widely, though, so the reference librarian must look closely at the software that comes with a CD database. CD-ROM databases are much faster than searching the equivalent tool in print for all but the simplest questions.

CD-ROM products have proven to be very popular with patrons. Response has been overwhelmingly positive in almost every library that has offered CD-ROM searching. CD-ROM makes it easy to offer end user search services because you don't have to keep track of online time or worry about security of passwords. Librarians and users can spend more time learning and browsing without an online "meter" running. Most users like database searching and almost always seem to prefer it to print, but they don't like to be rushed.

A final reason to select CD-ROM is if telecommunications links are a problem. If you are in a rural or remote area far from a major city you may have to dial a long distance number to reach the nearest telecommunications node, adding to the cost of the online search. If local phone systems are unreliable you may experience unacceptable downtime. CD-ROM is not dependent on outside phone systems that are out of your control.

When to choose print

There are still times when printed reference books are the best choice. They are usually the most straightforward to use and require less initial training. Adding a technological reference source to the library requires time by the library staff to learn how to use the new medium and to teach others. Books have little downtime or mechanical failures.

Printed reference works are very good and fast for answering one-dimensional reference questions: "What pharmaceutical company manufactures Valium?" or "Help me find five recent magazine articles on drug testing" or "What is the boiling point of rubbing alcohol?"

If you need pictures or other illustrations, books are still the best option with 1988 technology. This won't always be true, but today the print version of an encyclopedia article on Ha-

waii includes photographs, charts, drawings, etc. The online and most CD-ROM versions have only text.

Administrative impacts

Technology impacts library service both positively and negatively. Decision making can be tedious and involves a certain amount of stress. When one decision is made it seems to lead to many more. What is the appropriate technology for a particular reference title? What end user or intermediary service will be offered? What option or options will be selected for end user searching? If a title is available in more than one format, how much should be duplicated? Decisions must be made at all of these levels and by everyone in the library, especially administrators, collection development librarians, and reference librarians.

Adding technology is often expensive, so it calls for creative financing. Few libraries can afford everything they want or need. Charging user fees is one method chosen by libraries (in spite of the American Library Association's clear policies to the contrary), but there are other ways. Librarians are beginning to report successful creative ways to finance technologies (e.g., dropping little-used print subscriptions, writing grant proposals to pay for start-up costs, getting local corporations to sponsor a CD-ROM workstation and index).

Almost every decision that is made involves changes that affect people. For example, if an end user search service is started using a system such as BRS/After Dark, reference departments must be staffed during evening and weekend hours. CD-ROM workstations require hardware troubleshooters and people who can help new users with the mechanical as well as the intellectual process of searching. Technologies mean the need for a commitment to staff development and continuing education.

Interpersonal impacts

Experience has shown that the image of the librarian almost always changes for the better when online searching or CD-ROM searching is added to reference services. The status of the librarian improves in users' minds and the library as a whole is viewed as a more progressive place.

In addition, the training role of the librarian is increased as many users require one-on-one help from refer-

ence staff to learn how to use the new system. Unlike training to use print sources, however, technology requires an emphasis on hardware and software as well as content. This may make some librarians uncomfortable or insecure about their own abilities to deal with the new automated sources. Again, a commitment to staff training together with time to learn before public access begins is essential.

Some libraries experience a staff split between "computerphobes" and "techies." While most people probably fall somewhere in the middle, there are those who want nothing to do with automated reference sources and others who discover latent talents and don't want to do anything else. An understanding administration, good staff relationships, and the willingness to let people proceed at their own pace are needed to smooth the transition.

Intellectual impacts

Sometimes the thrill of a new technology blinds us and the patrons to the content of the reference source that is being provided by the technology. We need to make sure that librarians and users understand the difference between the medium (CD-ROM) and the content (ERIC).

It is fashionable to blur the difference among sources—providing an "answer machine" or "magic computer." Librarians know that there really are differences among databases and must guide the user to the most appropriate source no matter the technology. We need to select technological tools with the same care we select printed tools. Junk on a computer is still junk.

In addition to evaluation of the content, librarians must now be software evaluators as well. With a dozen or so versions of Medline and six or so versions of ERIC on CD-ROM, it is up to the librarians to decide which one is easiest to use or most powerful or most appropriate for their users.

The choices offered by technological reference sources require so many decisions that it may at times seem overwhelming. But, on the whole, the choices that force us to make decisions and the corresponding impact of technology on reference work are positive. Technology offers choices for better access to information, choices for better services to users, and choices for more enjoyable research and library use.